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Challenges and approaches to the implementation of 2008 SNA in Ukraine

Implementation of the methodology of the 2008 SNA in Ukraine

Prepared by the State Statistics Service of Ukraine

Summary

This paper describes the implementation of the 2008 System of National Accounts (2008 SNA) and the 2010 European System of Accounts (ESA 2010) in the national accounts of Ukraine. It gives an overview of the principal changes introduced, taking account of financial intermediation services indirectly measured, insurance, research and development, expenditure on weapons systems, illegal economic activities and value of services for owner-occupied dwellings. Data on the changes made and their effect on gross domestic product and its main components are shown below.

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I. Prerequisites for the introduction of the updated national accounts methodology

1. The national accounts of Ukraine were first compiled in 1993, with the inclusion of indicators covering the period from 1990. The national methodology is based on the System of National Accounts 1993 (1993 SNA), supplemented by the provisions of the European System of National and Regional Accounts (1995 ESA). The methodology used for calculating indicators, as well as the baseline statistics and the administrative data, have improved over the past two decades.

2. This has contributed to the implementation of a good number of government programmes that have involved the coordination and harmonization of national accounts statistics with other branches of macroeconomic statistics, as well as harmonization of the baseline administrative information with the requirements of the national accounts. The Interdepartmental Working Group on National Accounts Statistics (established in 2001), whose members included officials from the State Statistics Service, the Ministry of the Economy, the National Bank, the Treasury, the Tax Service and academic organizations, helped find solutions to these issues.

3. This joint work led to the introduction into the country's statistical practice of virtually all of the basic elements of national accounts and the methodologies called for under the 1993 SNA and ESA 1995.

4. Such basic sets of indicators as annual national accounts, input-output tables, financial accounts, quarterly accounts and regional accounts are handled within the framework of the national accounts of Ukraine. Balance sheets of financial and non-financial assets and liabilities are produced. Gross regional product (by the production approach) and gross value added at actual and constant prices are assessed for the 27 regions of Ukraine. Household disposable income and real household disposable income are also calculated.

5. The accounts indicators are published by institutional sector of the economy, and with functional classifications (Classification of individual consumption by purpose (COICOP), Classification of the functions of government (COFOG) and Classification of the purposes of non-profit institutions (COPNI) serving households). In 2012, the transition was made to the publication of production and income generation accounts based on the Statistical Classification of Economic Activities in the European Community (NACE) Rev.2 classification.

6. The introduction of the main provisions of the 1993 SNA and ESA 1995 into the country's statistics, together with the harmonization, as appropriate, of other branches of macroeconomic statistics, specifically those related to government finance, monetary and credit, banking and balance of payments statistics, and the steady improvement of methodologies, have ensured good preconditions for the introduction of the updated 2008 SNA and ESA 2010 in Ukraine.

II. Transition of the national accounts of Ukraine to the new methodology

7. Because the State Statistics Service has not taken part in a review of national accounts methodology since the introduction of the 1993 SNA, we have encountered some difficulties in planning and organizing the process. The meeting on Implementation Plans for the System of National Accounts 2008 in countries of Eastern Europe, Central Asia and

South-East Europe, held in Kyiv in 2011, was a great help in developing the plans for the introduction of the new methodology, as was the last meeting of the Group of Experts on National Accounts in Geneva in 2012. Our participation in these meetings enabled us to set out the priorities and phases for the introduction of the 2008 SNA, and to develop a methodology for similar conversions.

8. It was also important to coordinate the activities of the various producers involved in preparing the data used to compile the national accounts, as well as data from related branches of macroeconomic statistics. These issues were resolved with the Government's adoption of the new five-year strategy, for the period to 2017, for the development of State statistics, in which producers of macroeconomic statistics committed themselves to improving the following in line with the new international standards: government finance statistics (Ministry of Finance, Treasury), balance of payments statistics (National Bank), and monetary and financial statistics (National Bank, National Commission on the Regulation of Financial Service Markets and National Commission on Securities and the Share Market).

9. The first change was the introduction of the new version of the Classification of Type of Economic Activity, the national version of which was developed on the basis of NACE Rev.2.

10. To obtain production and income use accounts data according to the new classification, we reallocated the indicators concerned between the old and the new classifications of types of economic activity; this can be expressed in simplified form as a chequerboard matrix for each of the institutional sectors of the economy (annex, table 1). Similar matrices were compiled for indicators of output, intermediate consumption, wages and consumption of fixed capital, while indicators of gross value added and operating surplus were obtained by calculation. For the non-financial corporations sector, however, the data used came from structural business statistics obtained by directly transcoding companies in the register. For the households as producers sector, data from the Ministry of Revenues and Duties were used. For the general government sector, the recalculation was based on a detailed analysis of the functional and programme classification codes for government and local budgets. A specific feature of the recalculation for the financial corporations sector was the inclusion of the institutional unit segment, which had previously come under the non-financial corporations sector. It should also be noted that a similar approach was used for the conversion of indicators at constant prices.

11. The introduction of the new national accounts standards, which is now in its second phase, required a fundamental review of administrative information sources. The State Statistics Service held consultations with experts from the National Bank, the Ministry of Finance and the State Treasury Service concerning timing and possibilities for obtaining the necessary information. We came to an understanding with the National Bank, which has provided detailed information for the calculation of financial intermediation services indirectly measured (FISIM) for the domestic economy and carried out the transition to the Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual, harmonized with the 2008 SNA methodology. However, more time is needed to introduce the International Monetary Fund Government Finance Statistics Manual and so existing information has been used for values of a number of indicators, such as fixed capital consumption, expenditure on military equipment and research work, on which the estimations were based.

12. In line with the recommendations drawn up at meetings of the United Nations Economic Commission for Europe and other international organizations, and taking into account the time needed to complete this work, the first phase of introduction of the above-mentioned methodological changes put priority on questions that have an effect on GDP volume and structure, such as general macroeconomic indicators:

- The new procedure for calculating output and allocation of FISIM;
- Insurance;
- Research and development;
- Weapons systems;
- Operations involving goods sent abroad for processing;
- Illegal economic activities;
- Imputed rent for owner-occupied housing.

A. Financial intermediation services indirectly measured

13. The data from the National Bank of Ukraine on the activities of other depository corporations (S.122) include monthly information on the amount of loans provided and deposits taken, interest earned and interest paid, detailed by institutional sector of the economy and separately for operations in the interbank market. The National Commission for Regulation of Financial Services Markets provided the information to calculate the activity of other financial intermediaries, except insurance corporations and pension funds (S.123). It also included similar quarterly data.

14. The output of financial intermediaries was calculated for the above two subsectors of the financial corporations institutional sector, in accordance with the 2008 SNA recommendations. In the light of the ESA 2010 provisions, FISIM is not calculated for National Bank of Ukraine operations or for operations between other depository corporations (ESA 2010, chap. 14).

15. The internal reference rate was determined on the basis of interest rates on the interbank market.

16. FISIM was allocated according to the institutional affiliation of the consumer. For market producers, it was included in intermediate consumption, and for non-market producers, in intermediate consumption and production, as well as in final consumption. Intermediate consumption of households as producers included FISIM provided to employers, as well as that on the acquisition and reconstruction of housing, and final consumption included FISIM on consumer credit.

17. One currently unresolved issue for Ukraine is the lack of complete information for estimating the export and import of FISIM. These indicators are therefore not yet recorded in the national accounts or balance of payments.

B. Insurance

18. In line with the 2008 SNA, operations between insurer and reinsurer (reinsurance) were included as a separate set of operations. Thus insurance output, which had previously been expressed on a consolidated basis, was increased by the amount of reinsurance services. Intermediate consumption of insurance was increased by the same amount. As a result, the gross value added of the industry has remained unchanged. Furthermore, the 2008 SNA recommended that, in order to avoid the negative values of insurance output that may arise as a result of major catastrophes, corrections should be made to insurance claim payments using a series of smoothed data for previous periods or insurance output estimated on the basis of production costs, including the value of implicit profit. Since we have not been faced with such a situation, we have not had to produce such values.

C. Research and development

19. Under the 2008 SNA, the results of scientific research and development, which may be used repeatedly in the production process, have been excluded from intermediate consumption and are included in capital formation. In accordance with the Frascati Manual classification,[1] basic research, applied research and scientific and technological development have been included in this component. Intermediate consumption continues to include subsidiary scientific and technical services and intermediate consumption of scientific research by market manufacturers of the M72, scientific research and development, class of economic activity. Alongside this, final consumer expenditure in the general government sector excludes expenditure on basic research, which is included in capital formation.

20. As a result of these methodological changes, there has been an increase in gross fixed capital formation and gross value added.

D. Expenditure on weapons systems

21. Under the 2008 SNA, expenditure on weapons systems is excluded from intermediate consumption, output and final consumption expenditure in the general government sector and is classified as gross fixed capital formation in that sector. The indicator was defined using accounts data on implementation of the State budget. As mentioned above, the government finance statistics still classify these indicators as current expenditure, not capital expenditure. We have therefore tried to reallocate them indirectly.

E. Operations involving goods sent abroad for processing

22. Under the 2008 SNA and the Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual, import and export should be recorded strictly on the basis of changes of ownership, i.e., any flows of goods between the country owning the goods and the country providing the processing services should not be recorded as imports and exports of goods. Processing services, however, need to be reflected in exports and imports, which leads to a reduction in the volume of exports and imports. Another consequence of this change is a reduction in the output and intermediate consumption of non-financial corporations by the production approach.

23. The 2008 SNA additionally recommends recording merchanting operations. However, the State Statistics Committee and the National Bank of Ukraine do not yet have sufficient information to record these operations.

E. Illegal economic activities

24. Under the 2008 SNA, illegal economic activity is included in the production boundary. The classification and methodological approaches recommended in Eurostat's Tabular Approach to Exhaustiveness. Guidelines for type N2: "Producers deliberately not registering – illegal activities" were used. The European Union has agreed on three types of

[1] Organisation for Economic Co-operation and Development. *The Measurement of Scientific and Technological Activities. Proposed Standard Practice for Surveys on Research and Experimental Development. Frascati Manual 2002*. Paris, 2002.

activities to be included in national accounts: the production and distribution of drugs, prostitution, and the smuggling of alcohol and tobacco products.

25. Illegal production was valued by estimating the supply of and demand for illegal goods and services in quantitative terms, with the resultant value expressed in monetary terms. Data from sociological surveys and special research on the number of persons employed and the value of services provided was used to determine the volume of prostitution services used.[2] Data from special periodic studies on the number of consumers,[3] the volume of drugs seized and their average prices, provided by the Ministry of the Interior and the Security Service of Ukraine, were used to estimate the volume of production and consumption of narcotic drugs. It was also taken into consideration that, depending on the type of drug, the proportion detected represents only a part of total production. The trade margin on the sale of drugs is estimated on the basis of the volume of production. The trade margin and the value of drugs manufactured in Ukraine make up the total volume of this type of illegal activity. The commodity flow method is used to estimate the amount of alcohol and tobacco products smuggled. Consumption and smuggling of these goods are estimated from data from the international organizations on levels of consumption in Ukraine and by constructing monetary and physical balances.

F. Value of owner-occupied dwelling services

26. We have changed the approach used to estimate the value of owner-occupied dwelling services. In the past, this was determined on the basis of expert estimations. The new accounts method is based on the user cost approach for estimating owner-occupied dwelling services, as set out in the report by Mr. Derek Blades (ECE/CES/GE.20/2008/3, 12 February 2008). Since rental forms an insignificant (less than 10%) proportion of the property market in Ukraine, actual rents for similar dwellings cannot be used for estimations. Therefore, each type of cost that owners have to take into account in fixing a market rent when putting their dwellings up for rent has been estimated: intermediate consumption, other taxes on production, consumption of fixed capital and operating surplus. The main indicator for this calculation is the value of the housing for which the owner-occupied dwelling services are indirectly measured, at current prices. We have used the following data in this estimation:

- Value of stock of dwellings brought into service in the reporting period;
- Floor space of stock of dwellings brought into service in the reporting period;
- Total floor space of stock of dwellings;
- Floor space of privatized stock of dwellings;
- Floor space of stock of dwellings actually rented out;
- Average age of stock of dwellings;
- Expected service life of stock of dwellings (average for European countries – 70 years);

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[2] International HIV/AIDS Alliance in Ukraine. *Analytic report based on results of 2009 survey among female sex workers* (Kyiv, 2010).

[3] Ukraine, Ministry of Health State Alcohol and Drugs Medical and Monitoring Centre, *National Drug Report* (Kyiv, 2012). http://www.damonitoring.net.ua/uk/current_information/49.html. United Nations Office on Drugs and Crime. *World Drug Report* (Vienna, 2012). Available at http://www.unodc.org/unodc/en/data-and-analysis/WDR-2012.html.

- Quality coefficient of existing compared to new housing.

27. Fixed capital consumption has been estimated using the "geometric depreciation with no mortality function" method.

28. Thus, the value of owner-occupied dwelling services includes such basic components as:

- Expenditure on the maintenance and repair of the dwellings;
- Insurance premiums paid by the owners of the dwellings, excluding insurance claims;
- Financial intermediation services during acquisition and reconstruction of the dwellings;
- Taxes on the dwellings and associated land;
- Fixed capital consumption;
- Imputed profit at the current value of the dwellings (2.5% of the value of the dwellings).

G. Overall impact of the new 2008 SNA methodology on GDP of Ukraine

29. The effect of the methodological changes in the updated 2008 SNA on the composition of GDP is reported in tables 2 and 3 of the annex. Each of the changes has led to an increase or a decrease in nominal gross value added and GDP end-use categories:

(a) The consequence of the change in methods for calculating FISIM is a decrease in gross value added for market producers by type of economic activity, with an overall increase resulting from the removal from it of FISIM on consumer credit; an increase in final consumption expenditure in the housing, general government and non-profit institutions serving households sectors, and a growth in GDP;

(b) The change in the method for calculating insurance increases the volume of output and intermediate consumption, but does not affect the volume of gross value added of this type of activity or GDP as a whole;

(c) The inclusion of research results in gross capital formation reduces intermediate consumption of these services by market producers, thereby increasing their added value; reduces final consumption expenditure in the general government sector[4] and increases gross fixed capital formation; it increases GDP;

(d) The allocation of expenditure on weapons to gross fixed capital formation reduces output and intermediate consumption, without affecting the added value of the government sector. Consequently, final consumption expenditure[4] in the general government sector falls, but gross fixed capital formation rises, resulting in no change to GDP;

(e) The change in the way that external transactions in goods sent abroad for processing is reported reduces intermediate consumption and output, as well as export and import, practically without affecting GDP;

[4] The inclusion of fixed capital consumption for these types of assets increases production volume and final consumption in the general government sector, as well as GDP.

(f) The inclusion of illegal economic activities in production increases output, intermediate consumption and gross value added, as well as household final consumption expenditure, which has the effect of increasing GDP;

(g) The change in the methods for calculating owner-occupied dwelling services increases output, gross value added and household final consumption expenditure, and hence GDP too.

II. Prospects for further development of the national accounts of Ukraine

30. The introduction of the methodological changes and new classifications from the updated international standards means that the data review work already begun needs to be continued. For example, economic projections require data series over long periods of time, with quarterly figures. This type of retrospective review of national accounts data series will be carried out for the period 2001–2013, and completed this year. At the same time, for the convenience of the users, we will be making three types of change:

(a) Transition to the new NACE Rev.2 classification of types of economic activities;

(b) The 2008 SNA methodological changes;

(c) Transition to a new base year (2010, in place of 2007).

31. Building on the work already begun, a new revision of the Classification of Institutional Sectors of the Economy will be drafted. This work is particularly important because of the need to make the relevant changes to the Statistical Register of Enterprises and Organizations of Ukraine, which serves as the basis for statistical observations. The Classification is interdepartmental, and is used in the work of the National Bank and the Ministry of Finance.

32. Furthermore, compliance with the requirements of the 2008 SNA when compiling financial accounts, as well as balance sheets of financial and non-financial assets, requires changes to the relevant classifications.

33. It is also planned to develop tables for the reclassification of government finance statistics. Given the interdepartmental nature of the work, the practical implementation of these classifications will require coordination of activities with the authors of monetary and credit statistics and government finance statistics, as well as a longer period of time.

34. We are planning to work on the valuation of global production in the future.

35. The introduction of the 2008 SNA as a standard for national accounts requires a higher level of statistical and institutional capacity. There are a number of problems with this for Ukraine, as for other countries, that can be resolved if the necessary support is provided, in particular through instruction and training for the staff of the State Statistics Service. The State Statistics Service, for its part, will endeavour to explain the methodological changes to representatives of the executive bodies and other users of statistical data.

36. It should also be noted that there is an urgent need for databases and software for processing indicators for the national accounts; and collaboration in the preparation of statistical data between the State Statistics Service and the Ministry of Finance, the National Bank and other bodies that provide administrative information.

Annex

Table 1
Output of non-financial and financial corporations: transition from NACE Rev.1.1 to NACE Rev.2
(per cent of output under NACE Rev.1.1)

		NACE Rev.1.1								
		Agriculture, forestry, fishing	*Industry*	*Construction*	*Trade, hotels and restaurants*	*Transport and communications*	*Finance*	*Real estate, renting and business activities*	*Public administration, education, health care*	*Other services*
NACE Rev.2		*A–B*	*C–E*	*F*	*G–H*	*I*	*J*	*K*	*L–N*	*O–P*
Agriculture, forestry, fishing	A	99.8						0.4		
Industry	B–E	0.1	99.5		0.1			0.3	0.0	29.5
Construction	F		0.0	99.7				6.7		0.0
Trade, hotels and restaurants	G–I		0.0		99.8	81.5			0.1	0.3
Information and communication	J		0.4			17.9		10.7		33.1
Finance and insurance	K						100.0	8.2		
Real estate activities	L							28.8		
Professional, scientific and technical activities	M–N	0.1	0.0	0.3	0.0	0.6		44.4	0.1	8.8
Public administration, education, health care	O–Q								99.7	0.3
Other services	R–U		0.0		0.1			0.5	0.1	28.1
Total		**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Annex (continued)

Table 2

Effect of 2008 SNA changes on gross value added

(per cent compared to 1993 SNA indicator)

Economic activity	*Section of NACE Rev.2*	*Gross value added*
Agriculture, forestry, fishing	A	-0.8
Industry	B–E	-2.4
Construction	F	-1.6
Trade, hotels and restaurants	G–I	-0.8
Information and telecommunications	J	-1.3
Finance and insurance	K	-18.0
Real estate activities	L	38.0
Professional, scientific and technical activities	M–N	6.4
Public administration, education, health care	O–Q	0.6
Other services	R–U	19.2
FISIM		-100.0
Total		**4.2**

Annex (continued)

Table 3

Effect of 2008 SNA changes on Components of GDP by the production approach and end-use categories

(per cent compared to 1993 SNA indicator)

	End-use method							
		Final consumption expenditure						
	Gross value added	*of households*	*of general public administration*	*of non profit organizations serving households*	*Gross fixed capital formation*	*Export*	*Import*	*Gross domestic product*
Financial intermediation services indirectly measured	1.4	1.7	0.3	1.9				1.2
Insurance								
Research and development	0.5		0.2		2.3			0.5
Expenditure on weapons					0.1			
External trade in goods and outsourcing						-5.8	-5.3	
Illegal economic activities	0.4	0.5						0.4
Imputed rent for owner-occupied housing	1.8	2.4						1.6
Total	**4.2**	**4.6**	**0.5**	**1.9**	**2.4**	**-5.8**	**-5.3**	**3.6**